

WHAT IS CLAIMED IS:

- 1 1. A method of shielding and grounding a cable, the method comprising:
2 providing conductive leads encapsulated within a dielectric layer;
3 applying a metallized layer around the dielectric layer; and
4 coupling a metallized thermoform connector to the metallized layer, wherein
5 the metallized thermoform can be electrically coupled to a grounded housing.
- 1 2. The method of claim 1 further comprising covering the metallized
2 layer with an insulating layer, wherein a portion of the metallized layer is exposed through
3 the insulating layer so as to allow the metallized thermoform connector to electrically contact
4 the metallized layer.
- 1 3. The method of claim 1 wherein applying comprises thermally
2 vaporizing the metallized layer onto the dielectric.
- 1 4. The method of claim 3 wherein thermally vaporizing comprises
2 depositing the metallized layer having a thickness between approximately one-tenth micron
3 and twelve microns.
- 1 5. The method of claim 1 further comprising contacting at least one of the
2 conductive leads with the metallized layer.
- 1 6. The method of claim 1 wherein the metallized thermoform can be
2 removably attached over a connector pin assembly that attaches the conductive leads to the
3 housing.
- 1 7. The method of claim 1 wherein the metallized thermoform is
2 metallized on at least one of an inside surface and an outside surface.
- 1 8. The method of claim 1 wherein coupling comprises snap fitting or
2 interference fitting the metallized thermoform over the metallized layer.
- 1 9. The method of claim 1 wherein the metallized thermoform comprises
2 bumps to create contact between metallized layer and the thermoform.

1 10. The method of claim 9 wherein the bumps are spaced no farther than
2 one half a wavelength of the EMI radiation and have a height of no larger than one half a
3 wavelength of the EMI radiation.

1 11. A shielded cable comprising:
2 a cable body comprising electrical conductors disposed within an insulating
3 substrate;
4 a vacuum metallized shielding layer disposed over the insulating substrate,
5 and
6 a metallized thermoform connector coupled to an end portion of the cable
7 body and electrically coupled to the vacuum metallized layer, wherein the connector can be
8 electrically coupled to a grounded housing so as to ground the shielding layer and connector.

1 12. The cable of claim 11 further comprising an insulating top coating
2 disposed over the vacuum metallized layer to insulate the vacuum metallized layer.

1 13. The cable of claim 12 wherein the insulating top layer extends to a
2 point short of the connector such that the connector is electrically coupled to the metallized
3 layer.

1 14. The cable of claim 11 wherein the vacuum metallized layer has a
2 thickness between approximately one-half micron to twelve microns.

1 15. The cable of claim 11 wherein the metallized thermoform is coupled to
2 an outside surface of a nonconductive connector.

1 16. The cable of claim 11 wherein the connector further comprises spaced
2 protrusions, wherein the connector is electrically coupled to the metallized layer with the
3 spaced protrusions.

1 17. The cable of claim 16 wherein the spaced protrusions have a height
2 and spacing between an adjacent protrusion that is no larger than one-half a wavelength of a
3 released radiation.

1 18. A method of shielding a cable from EMI and RFI radiation, the method
2 comprising:

3 providing conductive leads disposed within a dielectric;
4 thermally vaporizing a metallized layer around the dielectric; and
5 grounding the metallized layer to a grounded housing.

1 19. The method of claim 18 wherein grounding comprises electrically
2 coupling the metallized layer to the grounded housing with a metallized thermoform
3 connection assembly.

1 20. The method of claim 18 wherein thermally vaporizing comprises
2 maintaining the temperature of the dielectric below approximately 150°F.

1 21. The method of claim 18 wherein thermal vaporizing comprises
2 creating a substantial uniform metallized layer on the dielectric.

1 22. A shielded cable comprising:
2 a conductive lead encapsulated within a dielectric;
3 a polymer layer surrounding the dielectric;
4 a metallized layer surrounding the polymer layer; and
5 a insulative coating disposed around the metallized layer.

1 23. The shielded cable of claim 22 wherein the metallized layer is
2 thermally evaporated over the polymer layer so as to create a substantially uniform thickness.

1 24. The shielded cable of claim 22 further comprising a base coating
2 disposed between the metallized layer and the polymer layer, wherein the base coating
3 improves adherence of the metallized layer to the polymer layer.

1 25. The shielded cable of claim 22 wherein the polymer layer comprises a
2 thermoformable material.

1 26. The shielded cable of claim 22 further comprising an electrically
2 conductive connector that is electrically coupled to the metallized layer, wherein the
3 connector can be coupled to ground.

1 27. The shielded cable of claim 27 wherein the electrically conductive
2 connector comprises a metallized thermoform.

1 28. The shielded cable of claim 27 wherein the metallized thermoform
2 comprises a first body and a second body.

1 29. A method of shielding a cable, the method comprising:
2 providing a conductive lead disposed within a dielectric;
3 encapsulating the dielectric with a polymer coating;
4 coupling a metallized layer around the polymer coating; and
5 insulating the metallized layer.

1 30. The method of claim 29 wherein coupling comprises applying a base
2 coating to the polymer to increase adhesion of the metallized layer.

1 31. The method of claim 29 wherein coupling comprises thermally
2 vaporizing the metallized layer onto the dielectric.

1 32. The method of claim 29 further comprising grounding the metallized
2 layer to a ground with a metallized thermoform.

1 33. A cable shield for shielding a cable body, the shield comprising:
2 a thermoform body comprising an inner surface and outer surface, the
3 thermoform body sized and shaped to surround the cable; and
4 a metal layer disposed along one of the inner surface and outer surface.

1 34. The cable shield of claim 33 further wherein the thermoform body
2 comprises a first body and a second body.

1 35. The cable shield of claim 34 wherein the first body and second body
2 are coupled together with a clamp.

1 36. The cable shield of claim 33 wherein the thermoform body comprises
2 at least one of ribs, cutouts, and corrugation to facilitate flexing of the thermoform body.

1 37. The cable shield of claim 33 wherein the metallized layer is disposed
2 along the outer surface of the thermoform body, the shield further comprising an insulating
3 layer disposed over the metal layer.

1 38. The cable shield of claim 33 wherein the metallized thermoform
2 comprises an integral connector at an end of the thermoform body, wherein the integral
3 connector can shield a connector pin assembly of the cable.

1 39. A method of shielding a cable, the method comprising:
2 providing a cable body having a body and at least one connector pin assembly;
3 placing a metallized thermoform around the cable body and connector pin
4 assembly;
5 grounding the metallized thermoform.

1 40. The method of claim 39 wherein placing comprises snap fitting the
2 metallized thermoform around the cable body.